

Bone

Plasma/Serum Lycopene and Disease Risk

Main findings

- Data are suggestive.
- Three (3) studies showed a negative relationship between increasing serum lycopene and reduced oxidative stress markers (protein thiols) and bone turnover marker (NTx). Two studies showed lower serum lycopene in osteoporotic patients compared to control women.
- One study suggesting gene-nutrient interactions with lycopene and PON-1 polymorphisms and bone turnover markers.

Summary of studies and outcomes

- Number of studies = 5
- Risk estimates (RE) = 5
 - (-) = 5
 - N = 0
 - (+) = 0
- Risk estimates by Tomato or Lycopene category
 - \sqrt{GT} G. Tom =
 - \sqrt{PT} P. Tom =
 - \sqrt{FT} F. Tom =
 - \sqrt{Lyco} Lyco = 5 (-)

Table: Relationship between plasma/serum Lycopene and Bone Health

Study Type	N= RE from study type*	NEGATIVE ASSOCIATION (protective)					NEUTRAL ASSOCIATION (no associated risk or benefit)					POSTIVE ASSOCIATION (risk factor)				
		Sample size, n=					Sample size, n=					Sample size, n=				
Bone		≤100	101-200	201-500	501-1000	≥1000	≤100	101-200	201-500	501-1000	≥1000	≤100	101-200	201-500	501-1000	≥1000
RCT	0															
Interv	1	\sqrt{Lyco}														
PC	0															
CC	2	\sqrt{Lyco} \sqrt{Lyco}														
Cross Sec	2	\sqrt{Lyco}	\sqrt{Lyco}													
Eco	0															

\sqrt{Lyco} – Represents plasma/serum lycopene